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To: Dr. D. Mills
Director of Research

TRIP REPORT:
CANADIAN SOCIETY FOR FIFTH GENERATION RESEARCH MEETING

S.B. Nickerson

The third annual meeting of the Canadian Society for Fifth Generation Research was held in Ottawa, April 23 and 24, 1987. Fifth generation computing refers to microelectronics, computer architecture, computer systems and languages, and artificial intelligence. The Society is concerned with these areas separately, and, in particular, the integration of these areas. There was a day and a half long workshop followed by a half day business meeting. The workshop consisted of talks from 23 government departments, industrial research groups, vendors and non-profit institutes on areas where their work overlapped with the area of fifth generation computing. A summary of each talk is given.

1. Introduction

The Canadian Society for Fifth Generation Research (CSFGR) held their third annual meeting and a workshop in Ottawa, April 23 and 24, 1987.

The CSFGR is a Canadian Professional Society whose purpose (to quote from their constitution) is: "to stimulate research into the Fifth and future Generations of computing technology, facilitate transfer of the technologies from research to application, and to participate in international exchange of technical information about Fifth and future Generations of computing".

Fifth generation computing covers the fields of microelectronics, computer architecture, computer systems and languages, and artificial intelligence. The concept was introduced in Japan in 1982 with the initiation of its Fifth Generation Computing Project. The premise is that these topics have matured to the point that where they can be integrated into products such as natural language interfaces and knowledge-based systems with integrated logical inference mechanisms.

In January, 1986, the CSFGR signed a Memorandum of Understanding with the Japanese Institute of New Generation Computing Technology (ICOT) to promote Japan/Canada collaboration in development of Fifth Generation Computer Technology. The principal mechanisms for this will be the exchange of technical reports and visitors. This is the first such Memorandum of Understanding signed with ICOT. At present, 230 ICOT technical reports and Technical Memoranda are available through the CSFGR.

A list of these reports, and a copy of the two newsletters that the Society has produced, are available from the author of this trip report.

The CSFGR has also produced two reports ("Toward a Canadian Fifth Generation Research Plan", and "1986 Trip Report - Tokyo, Japan; Visits to NEC, Hitachi, Fujitsu, Oki, Mitsubishi, ICOT, University of Tokyo, Keio University"). These reports are available through the CSFGR [Dr. Nick Cercone, Computer Science, University of Victoria, Victoria, BC, V8W 2Y2, (604) 721-7225) or his assistant (604) 721-7219].

2. The Meeting

The meeting consisted of two parts: a day and a half workshop and a half day business meeting.

The Workshop was a series of 20-minute talks, given by industry and government representatives, describing their group's activities in the area of fifth generation computer research. The (corrected) agenda is shown at the front of the Appendix followed by notes of the talks (in the same order as shown in the agenda) and notes of the business meeting.

3. Conclusions

The groups represented were a good mix of vendors, government departments, non-profit institutes and industrial research groups, and gave a good picture of activity in this area in Canada.

Since Ontario Hydro is a member of PRECARN Associates Inc., Gordon McNabb's (interim President of PRECARN) talk and Zenon Pylyshyn's (Canadian Institute for Advanced Research) talk were of particular interest.

Also of interest to the Research Division in connection with the ICE (Integrated Computer Environment) study are the number of speakers that referred to the importance of using electronic communications to network researchers or members of a group working on a common project. This was mentioned by many speakers and emphasized by the speakers from PRECARN, Bell-Northern Research, Spar Aerospace, The Canadian Institute for Advanced Research and the British Columbia Advanced Systems Institute.

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APPENDIX

1987 Workshop and Third National Meeting

of the
Canadian Society for Fifth Generation Research/Société Canadienne pour la Recherche sur les Systèmes de Cinquième Génération

Chateau Laurier, Ottawa, Ontario
23, 24 April 1987

The one and one half day workshop preceding the Third National meeting of the CSFGR/ SCRSCG is intended to bring together industry, government, and university researchers, administrators and project directors in an effort to inventory Canada's current Fifth Generation Computing strengths and ongoing efforts and to make each group aware of the needs of the others. The focus on industry speakers and government speakers is in marked contrast to the first two National meetings which focussed on academic efforts, many of which were chronicled in the publication *Toward a Canadian Fifth Generation Research Plan* authored by the initial CSFGR/SCRSCG Steering Committee.

On Thursday, April 23rd, and until the CSFGR/SCRSCG business meeting begins on Friday afternoon, April 24th, participants at the Workshop can expect to hear from thirteen corporations and eleven government agencies about their perspectives on Fifth Generation computing. During Friday afternoon, April 24th, participants will have the opportunity to reflect upon the role of the CSFGR/SCRSCG, and discuss terms of Corporate Association with the Society, funding initiatives, trustees and scientific committee, etc.

Thursday 23 April 1987

9:30 Welcoming Remarks from CSFGR/SCRSCG executive

9:40 Ministry of State for Science and Technology
Privy Council Office
Intelligent Systems Corporation (NOW PRECARN ASSOCIATES INC)

10:45 Coffee Break

11:05 Bell Northern Research
International Business Machines Canada Ltd.
Digital Equipment ~~Corporation~~ OF Canada
SPAR Aerospace
MacDonald Dettwiler & Associates

12:45 Lunch (provided by the Society)

2:00 CRIM
Natural Science and Engineering Research Council
National Research Council - Intelligent Systems
~~Science Council of Canada~~
~~Interact~~

3:20 Coffee Break

3:40 International Artificial Intelligence
Alberta Research Council
Department of Communications
Applied AI Systems

5:00 First Day Closing Remarks

Friday 24 April 1987

9:00 Announcements

9:10 National Research Council - Committee on AI
Autometrics
Western Expert Systems Technologies
Canadian Institute for Advanced Research

10:30 Coffee Break

11:00 ~~Cognos~~
Knowledge Science Institute
National Research Council - Research Journals
British Columbia Advanced Systems ~~Foundation~~ Institute
Acquired Intelligence

12:20 Lunch (provided by the Society)

1:45 *CSFGR/SCRSCG Business Meeting - Agenda*

1. Report of the Executive
2. Incorporation of the Society
3. Interaction with ICOT
   - Technical Information Exchange
   - Funding Initiatives
4. Corporate Association
5. Trustees
6. Old Business
7. New Business

4:30 CSFGR/SCRSCG closing remarks

Ministry of State for Science and Technology

The speaker was Peter MacKinnon from the Strategic Technologies Branch. By way of background he talked about the changing technological environment, the government response to this and listed what they perceived to be the strategic technologies. He then narrowed his talk to the area of Artificial Intelligence and discussed government activities in this area, the role of universities and the role of business.

The Changing Technological Environment: Since World War II, the mechanical, electrical and chemical technologies are decreasing in importance. New materials research, and information and biological technologies are increasing in importance. This will have a profound impact, it will create a fundamental break with the past and we must adjust.

The Government Response to the Changing Technological Environment: the new government initiatives in this area are: the National Science and Technology Policy signed by the provinces and territories; the National Advisory Board for Science and Technology (chaired by the Prime Minister and with members from academia and industry); Innovaction (Innovation plus Action: Industrial Innovaction and Technology Transfer; Developing Strategic Technologies etc.) and the long term space program.

Strategic Technologies: microelectronics, artificial intelligence, biotechnology and new industrial materials are considered to be the strategic technologies.

Artificial Intelligence - Government Activities: MOSST has the following goals in the artificial intelligence area: establish national awareness, stimulate government, industry and academia to develop and apply artificial intelligence, and create new economic wealth for Canada. He presented a list of many (> 7) interdepartmental committees (eg Artificial Intelligence User's Group), federal working groups (eg Social and Cultural Impact of Science and Technology) and national working groups on artificial intelligence (eg Image Analysis and Artificial Intelligence). The government has produced many studies (eg Opportunities for Use of Artificial Intelligence in Government) and there are many government groups active in this area (NRC, Transport Canada, 7 more).

Artificial Intelligence - Role of Canadian Universities and Business: The universities should develop highly trained people, provide the example of networking among researchers, be active in Professional Associations and committees and transfer technology to business. Business should maintain awareness in order to capture the potential of Artificial Intelligence.

He ended by saying that there would be a series of announcements in the near future on new initiatives. The first announcement (the next day) was of a $90 million program in microelectronics.

The Privy Council Office

This talk was mainly about the Canadian Space Program. The history (Canada was the third nation in space), components (space station, astronaut program, etc) and funding ($824 million over 5 years) were reviewed. The Space Arm would be a major component of the Space Station and would involve the following strategic technologies: communication, remote sensing, data enhancement, vision systems, force control systems, multiple arm control and manipulator control.

PRECARN Association Inc - Formerly Intelligent Systems Inc (Canada)

This talk was given by Gordon MacNabb, interim President of PRECARN [formerly Intelligent Systems Inc. (Canada)] and past President of NSERC. PRECARN (PRECompetitive Applied Research N(etwork?)) has been formed to promote precompetitive research in Artificial Intelligence and Robotics. The initiative for the formation of PRECARN (an acronym has not been chosen yet, but he suggested it might be PAI or PRAI) came from the Canadian Institute for Advanced Research (CIAR - see below), a non-profit company that sponsors basic research through support of CIAR Fellows in Canadian universities. The first and largest program of the CIAR is in artificial intelligence and robotics. PRECARN (they could not find an appropriate name with the word intelligence in it that had not already been registered) exists as a mechanism for the formation of a "receptor" network in Canadian Industry for the research results of the CIAR program. They plan to sponsor applied precompetitive research with a 10- to 15-year horizon.

Background and motivation: Their basic goal is to speed up the application of new technologies into industry - our rate is about half that of the US. He said that he was especially happy to see that Canadian resource based industry was involved in PRECARN. Examples of consortia that have been formed in the rest of the world to exploit artificial intelligence and robotics are Alvey (Britain), ESPRIT and EUREKA (Europe) and many in the US. MacNabb noted that the US consortia are based in private industry. This leads to short-term projects and makes it difficult for them to compete with a consortium of government, university and industry. PRECARN sees itself as filling the gap that exists (in Canada at least) between industrial R&D and university R&D.

PRECARN activities: They plan to build an effective network between CIAR fellows and industry. They will identify the precompetitive R&D gaps in CANADA and develop sophisticated methods to disseminate research results, ie not wait for refereed papers but by regular briefings. They plan to establish an industrial base and be able to interface with other consortia in other countries such as Japan, Europe and the US. It is expected that individual members of PRECARN will fund research projects in areas that PRECARN identifies as important.

Organization and funding: PRECARN, at present with 22 industrial members (including Ontario Hydro) has a goal of 35 members for this year and 50 members by 1989. The cost of membership is $25 k/a. This cost has been deliberately kept low so that small companies can have the same influence as large companies. They hope to share projects with other groups such as the proposed Ontario Centres of Excellence. They expect to approach the federal government for funding on a one shot basis for 5 years. The research will be operated on a networking basis across the country based on regional strengths. There will be no permanent buildings and the headquarters will be wherever the president happens to be. Staff levels are expected to be 9 or 10 people at the end of 5 years.

Near future: The business plan will be ready the week of April 27, they will go to government for funding in May and look for a president soon.

Bell-Northern Research

Bell-Northern Research Ltd. has 5000 employees and has 56 people doing R&D in Advanced Information Technology. Bell-Northern is the world's largest supplier of digital switching equipment and sees a "desperate" need for artificial intelligence techniques. An example given was the need of expert systems in telecommunications: linking people and machines together in the performance of complex tasks.

Examples of Bell-Northern Projects: MAD (Maintenance advisor for DMS100 digital switch; expert system to configure digital switches; expert system to help sales representatives choose among different services; artificial intelligence techniques in software development; natural language; handling electronic mail intelligently; and the development of their own proprietary PROLOG. The speaker presented a list of BNR Artificial Intelligence publications.

What it takes to succeed in the introduction of artificial intelligence: proper problem selection (not simple enough to do in FORTRAN but not so complicated that it does not get finished); incremental development; good performance; and technical trials. They hope to be able to replace all their manuals for repair, maintenance etc with expert systems.

IBM

From IBM's perspective, artificial intelligence is: knowledge-based systems, natural language, robotic control and computer vision. They believe that knowledge is a corporate asset and that it should stay when people retire or go home for the night. IBM has 90 internal applications (examples: Scheduling advisor and System/38 capacity planning) and some commercial products (such as LISP, PROLOG and a shell for the System 370). In their Canadian laboratories they have internal projects (networking and image processing), joint projects with Canadian Universities (eg translation of manuals, with Simon Fraser University) and joint projects with customers (transportation and insurance).

Digital Equipment of Canada

They have found that their connections with CRIM (see below) and the University of Waterloo Institute for Computer Research have been worthwhile and will continue. Application areas are: graphics, educational research, networks, human factors, VLSI, artificial intelligence and knowledge engineering. Strengths and opportunities for Canada are: communications technology, robotics and natural language translation. DEC is now participating in the Institute for Computer Research, CRIM, the Canadian Institute for Advanced Research, the Carleton Research Institute, The BC Advanced System Foundation (see below), the Ontario proposed Center of Excellence Program. This proliferation is a little confusing and it is hard to choose among the different groups, but it is a useful trend. Two potential problems to which Canadians are prone: spending too much time in committees thinking about how to do things rather than doing them; and getting cold feet when a project is bigger than expected, underfunding the project and letting it die just when results are forthcoming.

SPAR Aerospace

Graham Norgate, R&D Manager Remote Manipulator System had two topics for his talk: his group's projects and the use of computers in management and design.

Their present projects are: the remote manipulator arm for the space shuttle (it took 1000 person years of design and analysis to create and manufacture the arm), the retubing robot for Ontario Hydro (had to be fast, reliable, accurate, have a long reach, and carry a 2 ton payload), a roof bolter for a mine and a project for the space station.

A large project involves the following elements: concept, detailed design, manufacture and testing. The program manager throughout this process is a switch board for money and information. In principle a manager will take a goal, divide it into sub-goals and so on until a person sized chunk is reached. In practice the project is broken up into pieces in such a way that the different groups do not have to communicate too much. He feels that to be competitive on an international scale, we must do better. At present computers are used by engineers for running FORTRAN programs for such things as arithmetic, house keeping and data storage. He would like to see computers used to better integrate engineering design. An example given for work at SPAR using this concept was the design of robotic controllers. They used artificial intelligence techniques (frames and demons) and were very pleased with the results. To summarize, he said that to be internationally competitive, a new interaction paradigm for engineering design was needed.

MacDonald Detwiller and Associates

This talk was given by Peter George and concentrated on MacDonald Detwiller's work on remotely sensed (satellite) image data. They are involved in all aspects from digitization to post-procesing. The remote data they typically process is 5000x5000 pixels with 8 - 16 bits of color or gray scale. These images come down continuously, day after day, for each pass of the satellite and they wish to automate the interpretation process as much as possible. Some applications are: stereo imaging with height extraction; identification of roads (for maps), extracting weather information to make it available to local forecasting sites, and jointly with the Alberta Research Council, the forecasting of severe weather. The hardware used is a Xerox LISP machine with LOOPS (an object oriented programming language) and a VAX based PROLOG system.

Centre de Research Informatique de Montreal (CRIM)

CRIM is a private non-profit corporation initiated by 5 Montreal area universities (Universite du Quebec, McGill University, Concordia University, Universite de Montreal and Polytechnique). It also has 10 corporate members. They have their own Board of Directors from industry, university and government, and have a guaranteed budget of $5 million over 4 years. They have 2 contracts with CAE: an expert system for flight simulators ($500,000) and voice recognition in noisy environments using artificial intelligence techniques (for radio communications with airplanes). One of their goals is to develop those members without an R&D tradition and their philosophy is to build on excellence.

Natural Sciences and Engineering Research Council (NSERC)

Leo Dereks (Director of Targeted Research) outlined their system of funding chairs (10-year support), projects (5-year support) and strategic grants. He did not know how much of their budget went to artificial intelligence related projects, since it is not organized by discipline.

National Research Council - Laboratory for Intelligent Systems

Morven Gentleman outlined the activities of the Laboratory for Intelligent Systems, part of their Electrical Engineering Division. There is a total of 62 people working in the group which is organized as follows: Computing Technology (21 people - multiprocessor architectures for real time control, computer graphics, sensor based robotics and computer vision), Information Technology (17 people - knowledge based systems, NATAL programming language and Engineering Information Systems), Photonics and Sensors (14 people - 3-d vision and photonic components for sensing and data processing), and Robotics and Automation (10 people - a new group based in Winnipeg).

International Artificial Intelligence

This is a part of a group of artificial intelligence related companies (CAIP Corp, West Inc, Kentec, Symbolics Canada, Inference Canada, Logicware Inc and Applied Knowledge Systems). The first part of the talk concerned the interrelationships between the companies, their growth targets, etc. The company is divided into 4 groups: Development Products Group (mostly software), Proprietary Products Group (Transportation & Communications, Health Care, 5 more), Marketing and Implementation Group, and Development and Integration Group. They also offer an Artificial Intelligence marketing and packaging service for entrepreneurs with a product. The speaker also gave an outline of CAIP activities (lumber manufacturing, spacecraft expert system, manufacturing quality assurance and engineered materials).

Alberta Research Council

The Alberta Research Council is a Crown Corporation that has been in business since 1921. It has 500 employees and a budget of $40 million. Projects include: Process Planner (apply the results of research in temporal planning and representation techniques to processes), heuristic rules for interpretation of control and simulation (used for operating schedules for trains), real time conferencing, interpretation of oil well logs, expert system for university curriculum development, short term severe storm warning forecasting, oil well testing, pattern classification using neural networks, vision processing and force/tactile sensing. They have 5 or 6 Symbolics LISP machines and a number of Sun workstations.

Department of Communications

The general responsibility of the Department of Communications is to foster orderly development and operation of communication systems and services in Canada. This includes a mandate to sponsor R&D as well and they feel that they should bridge the gap between industry and the universities. Some of their projects are: ship radio regulation advisor expert, concentration (data network concentration) maintenance advisor, expert system application for office environments, expert systems applications for the autonomous spacecraft project (fault diagnosis, planning and trend analysis), machine translation, applications of connectionist network models (representation of expert knowledge, recognition of continuous speech and video image processing), and optical character recognition. The speaker felt that the CSFGR could foster better communications between them and industry, between them and university and could promote collaborative R&D between them and other laboratories.

Applied AI Inc

This company sells PC based artificial intelligence products, consults in this area, presents seminars and lectures, and does a small amount of research. They research their products and believe that they sell the best available (Le-Lisp, Gold Hill Products, LPA micro-PROLOG products, ARITY products and Q&A). Takashi Gomi (the company president) does extensive traveling around the world visiting different AI labs. He believes that the new shell from Gold Hill (Goldworks - formally Acorn) is the equal of Kee or Knowledgecraft.

National Research Council

The previous talk from NRC (see above) gave details of artificial intelligence work in the Electrical Engineering Division. This talk covers the rest of NRC. Artificial intelligence at NRC is at 3 levels (developer, user and ??) and covers 3 areas (cognitive science - logic & reasoning; expert systems - very applied; and sensor based autonomous systems). The divisions involved are: Electrical Engineering (see above), Mechanical Engineering (expert systems for jet engine maintenance and monitoring, interpretation of road and vehicle regulations, and selection of equipment for mining operation; path planning & collision avoidance for robots; and generation of bill of operations for product manufacture), National Aeronautics Centre ("smart" cockpit and speech recognition), Institute for Research in Construction (expert system for design of windows; operations assistant), Space (space station and mobile serving station), and the Industrial Materials Research Institute.

The last part of the talk concerned the committee structure at NRC and the formation of a new (first meeting the week of April 13) NRC Associate Committee on Artificial Intelligence. It is made up of 20 members - 17 from universities and industry.

Autometrics

This is a small company with 4 full time R&D staff. Their area of expertise is voice recognition. They sell the Voton speech recognition products and have developed the A17 ruggedized, handheld computer with integrated voice I/O. The A17 is about the size of a paperback, has a 200 word vocabulary (which can be swapped with another in milliseconds), a rules processor in firmware and 512k of non-volitile RAM. It can be a stand-alone unit or an intelligent peripheral. They sell a software product called VRP (Versatile Rule Processor) which is a shell for use with speech recognition systems. Lastly they have an electronic speech transcription service.

Western Expert Systems Technologies

This is a small company (2 employees) that is part of the International AI company (see above). They develop expert systems in the area of telecommunications and are looking for joint ventures.

The Canadian Institute for Advanced Research (CIAR)

Zenon Pylyshyn delivered this talk. The CIAR is an experiment in a novel way of promoting advanced R&D in Canada. It was formed in 1981 as a non-profit company and was funded from private sources until 1986 when the Treasury Board provided matching funds. The first area that

was chosen for support was Artificial Intelligence and 31 CIAR Fellows are now supported in this area. Other areas that they have identified are cosmology, evolution biology, interface science, population and health, and ?. Their primary focus is to support individuals and the interaction between individuals so they support salaries and electronic communications between institutions. Quality control of R&D is of paramount importance so that everyone designated as a CIAR Fellow is good (but this does not mean that everyone good is included).

The primary areas in artificial intelligence supported are: vision, knowledge representation and reasoning, natural language and robotics. This area is entering a period of review. It is felt that the program is too broad and that it should be narrowed. They are also looking at better methods of communications.

The speaker felt that the CIAR is important because:

1. in Canada we have a lack of confidence in our own competence. The CIAR has helped to alleviate this as evidenced by the fact that the CIAR Fellows have received recognition out of all proportion to the money they receive and the recognition has attracted more money.

2. The CIAR has kept people in Canada and retrieved several people from the United States.

3. They are in the process of attracting people from the United States and Europe.

4. Canada has received a lot of attention because of the group's activities and the Workshops that they have sponsored. A book is about to be published on the Fellows work (fall 1987).

The idea of building a community of researchers is hard to evaluate but there is an indication that it is happening: the Queen's, Waterloo, University of Toronto and Western joint application to Ontario's Technology Fund for a Centre of Excellence in Information Technology.

They have discovered that there is a huge gap between the work of academics and the receptive capacity of Canadian Industry. This is a problem because the universities need a marketplace for their work and their graduates. (See also the PRECARN talk above).

Another lesson that they have learned is that it is much more difficult to persuade established researchers to move into new areas and do collaborative research, than to persuade graduate students. Therefore, the CIAR is sponsoring a conference just for graduate students.

British Columbia Advanced Systems Institute

This is a non-profit institute whose objective is to develop a world class center in microelectronics, computer science, robotics and artificial intelligence. They have a $8 million contract with the federal government under ERDA. The Institute is building centres at the University of British Columbia, the University of Victoria and Simon Fraser University. They plan to support Fellows at these Centres, who will receive extra support from their university and from the Institute. There will be a communications network in place that will allow any researcher to access any computer in the three universities. This will allow teleconferencing, exchange of data etc. The Institute plans to support workshops, conferences, libraries, etc. They

feel that, like PRECARN, they will occupy the middle ground between academia and industry.

Knowledge Science Institute (University of Calgary)

Brian Gaines gave this talk. The Institute has 11 full time researchers and a director. Some of their projects are: expert systems for sports coaching (Olympic hockey), management decision in flexible manufacturing, and tool development for knowledge acquisition. They have done some studies (Information Technology Infrastructure, Manufacturing Science Integration Model, Transmission of Knowledge, Acceleration of Research and 1 more) and sponsored a Workshop (Knowledge Acquisition for Knowledge-Based Systems - jointly with the American Association for Artificial Intelligence). This was a very successful event (500 requests to attend, 110 papers submitted and 43 accepted) and another is planned. He then talked about the European programs (Alvey and Esprit) and the Japanese Projects (Fifth Generation, Human Frontiers Program (a combination of Artificial Intelligence and Biology - $4 billion over 20 years) and their 6th Generation Research Program).

National Research Council

A summary was given of NRC's Journal Program. The journal Computational Intelligence (first issue February, 1985) was highlighted.

Acquired Intelligence

This company specializes in expert systems technology and tool development. They see three barriers to ?: shortage of trained personnel, knowledge acquisition and the dependence on expensive special purpose workstations. Their goal is to develop tools that can be easily used by experts and run on personal computers. They are presently developing knowledge acquisition and expert system tools.

The Business Meeting

The CSFGR is now a Society under the BC Society Act. It has 70 paid up members (Ontario Hydro is not a member but the author of this report is) and 500 on their mailing list. They have an official Memorandum of Understanding with the Japanese ICOT (Institute of New Generation Computing Technology). They have sent out 1200 ICOT reports across Canada and have sent reports from Canadian Universities to ICOT. With a phone call they could send a person for a few days' visit to one of the ICOT companies. Longer visits are being negotiated.

IBM Canada, Bell Northern Research and Bell Canada were thanked for their $5000 donations to the Society.

There were discussions on: the trustees (4 people were decided on and 4 more are to be chosen later), the role of the CSFGR (lobbying group? advisory group?), the lack of representation from the University of Toronto, how the CSFGR fits in with CIPS (Canadian Information Processing Society - mainly data processing) and CSCSI (Canadian Society for Computational Studies in Intelligence - mainly academic artificial intelligence research), and that there was more emphasis placed on artificial intelligence in the talks than any other topic.

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